

Temporal Structure of an Estonian Lament: A Case Study*

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Abstract: The acoustic structure of a South-Eastern Estonian lament was analyzed. The lament was recorded in 1972 as performed alternately by a soloist and a choir (of several female voices). In this lament, the basic structural unit consists of two four-foot verse lines of alternating trochaic and dactylic feet (2 + 3 + 2 + 3 syllables). The first verse of the couplet has invariant verbal content throughout the whole lament. The two-line unit is first performed by the soloist and, at the end of the second line, taken over and repeated by the choir. There are 11 structural units in the whole lament. Due to an almost complete one-to-one correspondence between syllables in the text and notes in the melody, the overall number of notes in the lament is

$$n = (2 + 3 + 2 + 3) \times 2 \times 2 \times 11 = 440$$

reduced by occasional pauses where the performer has to take a breath. Durations of all notes are perceived as equal by a listener, the exception being the very end of each structural unit where the last two notes are sung at a faster speed. The possible influence of a number of factors on syllable/note durations was tested by an ANOVA. These factors included word stress, metrical accent, modus of performance (solo or ensemble), variability of verbal contents (first or second line of the structural unit), position in the verse line, and position of the structural unit in the whole lament. The results were significant for performance modus, syllable/note position, and (somewhat less) for word stress. A closer study of differences between the performances of the soloist and the choir reveals a marked *ritenuto* at the end of the second verse line sung by the soloist, probably aimed at signaling to the choir that it has to step in.

Introduction

Lamenting is a way of passionate expression of grief which may accompany fundamental changes in human life, such as death or marriage. Lamenting is a pre-Christian tradition and some of its well-known examples have been recorded from Papua New Guinea and Hong Kong. Remnants of lamenting, however, are still preserved in remote Eastern European regions such as Karelia or parts of southeastern Estonia, the territory known as Setu.

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Some ethnomusicologists consider laments as possessing special functions and performance contexts, characterizing them as not quite speech and not quite singing. At the same time, lament tradition does not seem to be very homogeneous. Care should be taken in order not to overlook differences which may occur between lament traditions even when they have been observed in regions geographically close to each other. While it is generally agreed that Karelian laments are rather distant from orally performed folksongs, even demonstrating certain signs of sacred language which may not be understood by listeners (Tolbert 1990), the Setu laments, on the contrary, are close to the song tradition and could be considered as a part of it (Salve 1993). Like Estonian folksongs, a Setu lament uses elements from the common pool of the pre-existent repertoire, and combines these with an improvisational part which links the performance to the specific occasion.

The current paper studies the temporal structure of a Setu funeral lament which was recorded in 1972 under semi-field conditions, i.e. in a natural environment upon request by the interviewer, but not at the actual funeral. As an approximation, this lament may be considered as an isochronous sequence of temporal events. A tendency toward neutralization of quantity oppositions during lamenting has been described by Ross and Lehiste (1994). For the purposes of this paper, a temporal event may be defined either as a syllable or as a note (or tone), since there is one-to-one correspondence between syllables and tones in the lament. Below we will focus on deviations from the quasi-isochronous sequence of syllables/tones which occur during the performance and will try to understand the reasons for these deviations.

Material

The analyzed lament was performed alternately by a soloist and a chorus of a few voices, all female. The basic structural unit of the lament consists of two four-foot verse lines of alternating trochaic and dactylic feet (2 + 3 + 2 + 3 syllables). The first verse line of the couplet has invariant verbal content throughout the whole lament (it constitutes an address formula directed at the deceased), while the second line develops the "story" to be told. The two-line unit is first performed by the soloist and, at the end of the second line, taken over and repeated by the choir. There are eleven structural units in the whole lament. The predicted overall number of syllables (or tones) in the lament is

$$n = (2 + 3 + 2 + 3) \times 2 \times 2 \times 11 = 440$$

The actual number of syllables/tones measured was equal to 410. It was somewhat less than predicted because of replacement of some syllables/tones by pauses when the performer had to take a breath, and in some cases due to technical reasons.

Methods

The duration of syllables (tones) was measured using a Kay Elemetrics Signal Analysis Workstation (Model 5500), with a sampling frequency of 20 kHz. Segmentation of the sound signal was performed using two time-synchronized spectrographic representations (with bandwidths of 59 and 400 Hz respectively) of successive four-second portions of sound. The time resolution was estimated not to exceed 20 msec.

Results and Discussion

The distribution of syllable/note durations in the lament is shown in Figure 1.

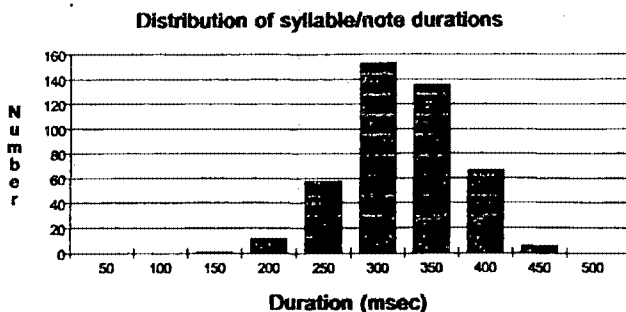


Figure 1. Distribution of syllable/note durations in the analyzed lament.

The average syllable/tone duration in this lament is about 300 msec. One-way analysis of variance was performed where the influence on syllable/tone durations of the following six variables was studied:

- position within a line (of a total of ten positions)
- position of a two-line structural unit within the lament (of a total of eleven)
- position of a line within the structural unit (first or second)
- relative metrical accent strength (strong or weak)
- performance type (solo or ensemble)
- presence or absence of word stress on the syllable.

Metrically strong positions are numbers 1, 3, 6, and 8 in a verse line, as the first syllables of trochaic or dactylic verse feet.

Significant effects on syllable/tone durations were found by its position within the line ($F(9,400) = 2.56, p < .01$), by performance either solo or by choir ($F(1,408) = 12.8, p < .001$), and by word stress ($F(1,408) = 4.49, p < .05$).

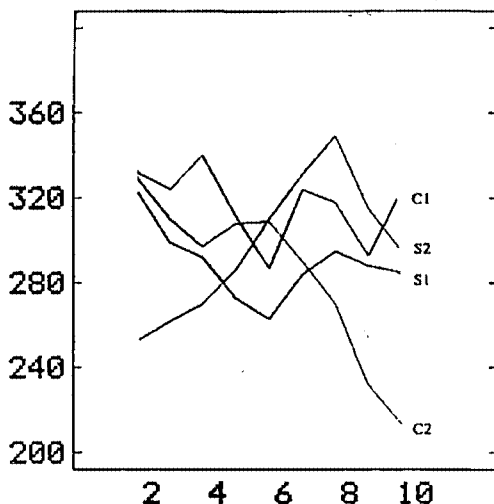


Figure 2. Tempo curves for four different verse line types. X-axis: syllable/tone position within a line; y-axis: smoothed average, in msec, of syllable/tone duration in given position.

Figure 2 presents tempo curves for four different verse line types in the lament: the line with invariant text performed solo (S1), the line with changing words performed solo (S2), the line with invariant text performed by ensemble (C1), and the line with changing words performed by ensemble (C2). Syllable/tone durations were averaged over 11 structural units (consisting of S1 + S2 + C1 + C2) as well as over two successive syllables/tones (1 + 2, 2 + 3, 3 + 4 etc.); the xaxis thus presents smoothed averages of syllable/tone durations in given positions within the line. Visual inspection shows that the tempo curve for S2 (the soloist's second line) differs from those of other lines, demonstrating monotonous increase of syllable/tone durations (reduction in tempo) until the 7th or 8th position in the line. This suggests that the most powerful reason for deviating from the isochronous syllable/tone sequence of the lament is a rather pragmatic one: to signal to the choir that it is their turn to join in, which happens before the last metric foot of the soloist's line. This appears also to be the reason for the significant effect on syllable/tone duration of its position within the line and of performance by either solo or choir.

This conclusion is strengthened by a two-way analysis of variance, which shows interaction of syllable/tone position both with solo/ensemble performance ($F(9,390) = 4.76$, $p < 6.82$, $p < .0001$), as well as interaction between the two latter variables, solo/ensemble and variant/invariant words ($F(1,406) = 5.90$, $p < .05$). Moreover, it has been noticed that lament performers tend to use all available means, including bodily movements, in order to make explicit the moment when other performers should join the performance (Sarv 1994).

As regards the role of word accent, found to be significant at the .05 level, the outcome is not as clear. All Estonian words are accented on the first syllable. The first syllable of polysyllabic words participates in the three-way quantity opposition which affects both the duration of the accented syllable and the duration of the second syllable. The durational ratios between the first and second syllable are approximately 2/3 for the short quantity, 3/2 for the long quantity, and 2/1 for the overlong quantity (Lehiste 1968). The ANOVA compared accented word-initial syllables with all other syllables in the lament. This did not take into consideration the occurrence of secondary stress on the third or fourth syllable of four- or five-syllable words, nor the fact that monosyllabic words do not participate in the quantity opposition and may or may not carry sentence-level stress. A preliminary calculation of the average duration of accented first syllables of polysyllabic words ($N = 108$) gave a value of 296 msec (s.d. 54.66), and of unstressed syllables in polysyllabic words ($N = 248$), 312 msec (s.d. 140.18). In the given lament, the ratio between the two syllables is 0.95, which is closest to the ratio found in words of Q1, the short quantity (2/3, or 0.67). Neutralization of quantity oppositions in laments is discussed extensively in Ross & Lehiste 1994. In the current case, it appears that at least partial neutralization in the direction of Q1 has taken place.

References

- Lehiste, I. (1968). *Vowel quantity in word and utterance in Estonian*. Congressus Secundus Internationalis FennoUgristarum. Helsinki: Societas Finno-Ugrica. Pp. 293-303.
- Ross, J., and Lehiste, I. (1994). *Lost prosodic oppositions: A study of contrastive duration in Estonian funeral laments*. To appear in *Language and Speech*.
- Salve, K. (1993). *Tähelepanekuid setu surnuikude zanridevahelistest ja geograafilistest seostest*. Akadeemia 5, 2605-2621.
- Sarv, V. (1994). Personal communication.
- Tolbert, E. (1990). *Women cry with words: Symbolization of affect in the Karelian lament*. Yearbook for Traditional Music, 22, 80-122.